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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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LEE & MORSE, P.C. 3141 FAIRVIEW PARK DRIVE SUITE 500 FALLS CHURCH, VA 22042			EXAMINER SHAN, APRIL YING	
			ART UNIT 2435	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/613,023

**Applicant(s)**

JANG ET AL.

**Examiner**

APRIL Y. SHAN

**Art Unit**

2435

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-11 and 13-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-11 and 13-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

#### **DETAILED ACTION**

1. A Request for Continued Examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 26 November 2008 has been entered.
2. Claims 1, 5-6, 10, 16, 19 and 21 have been amended. Claims 3 and 12 are canceled. No new claims have been added. Therefore, claims 1-2, 4-11 and 13-21 have been examined.
3. Applicant's amendments and argument have been fully considered, but are moot in view of new ground rejection as set forth below. It is noted that Applicant's arguments are directed towards limitations newly added via amendments.

#### ***Drawings***

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the amended claim limitations of "simultaneously transmitting a plurality of addresses included in the temporary address set to the wireless terminal", "simultaneously receive a plurality of temporary addresses included in the temporary address set.." and "a plurality of

temporary addresses included in the encoded temporary address set is simultaneously transmitted to the wireless terminal" must be shown or the feature(s) canceled from the claim(s). **No new matter should be entered.**

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-2, 4-11 and 13-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As per **claims 1, 10, 16 and 19**, "create...simultaneously receive/transmit a plurality of temporary addresses included in the temporary address set.." and "create...a plurality of temporary addresses included in the encoded temporary address set is simultaneously transmitted to the wireless terminal" are being recited. However, the examiner carefully and respectfully reviewed the Applicant's original disclosure and cannot find support for these amended claim limitations. For example, according to step 24 in figure 2, steps 35 and 36 of figure 3 and paragraphs [0015]-[0016] on page 6 of Applicant's original disclosure, it clearly recites create temporary address set and then transmit temporary addresses set to the wireless terminal not "simultaneously receive/transmit a plurality of temporary addresses included in the temporary address set.." and "a plurality of temporary addresses included in the encoded temporary address set is simultaneously transmitted to the wireless terminal" as recited in the claims. Therefore, the examiner finds no support in the original disclosure of newly amended claim limitations of "create...simultaneously receive/transmit a plurality of temporary addresses included in the temporary address set.." and "create...a plurality of temporary addresses included in the encoded temporary address set is simultaneously transmitted to the wireless terminal".

The Applicant is respectfully reminded that "When filling an amendment an applicant should show support in the original disclosure for new or amended claims."

M.P.EP. § 2163.II.A.3 (b).

In order to further examine the merits of the claims, it is assumed that this simultaneously refers to transmitting/receiving a plurality of addresses included in the temporary address set to the wireless terminal after creating the temporary address set. This limitation will be considered accordingly for the application of the prior art of record.

Any claim not specifically addressed, above, is being rejected as incorporating the deficiencies of a claim upon which it depends.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
10. Claims 1-2, 4-11 and 13-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orava et al. (U.S. Pub. No. 20030177267) in view of Bauchot et al. (U.S. Patent No. 5,644,576) - Kallio et al. (U.S. Patent No. 7,050,789) and further in view of Toth et al. (U.S. Patent No. 5,708,655).

As per **claim 1**, Orava et al. discloses a method of guaranteeing users' anonymity in a wireless Local Area Network (LAN) system, the method comprising:

(a) creating a temporary address set ("MAC can be a random number generated by means of a random number generator. MAC can be selected from the address space allocated to the MT on the basis of an address selection algorithm. A temporary MAC address MAC can be allocated to the MT for instance from among organization-specific unique identifiers (OUI) reserved for this purpose. Typically, one OUI allows  $2^{24}$  addresses. The IEEE 802 MAC address format allows locally

administrable MAC addresses, in which there are 46 available bits in a 48-bit address format for selecting the temporary MAC address. A MAC address can also be formed of a network identifier, such as a BSS identifier BSSID, and of a random part added thereto, for example" – e.g. Par. [0030], [0067]-[0069]);

(b) performing data packet transmissions between the wireless terminal and a wireless access node using a temporary address selected from the temporary address set corresponding to the wireless terminal as a source address or a destination address (e.g. enables the **usage of several MAC addresses at a time**. Several services may be used, via the same radio network and access point AP, **at the same time which is considerable improvement compared to current situation where only one MAC address and service can be used at a time...**Also for **predetermined contexts temporary MAC addresses may be determined...**" - par. [0030], [0067]-[0070].

Please note **predetermined contexts temporary MAC addresses may be determined** met the claimed limitation the data packet transmission is performed using a temporary address selected from the temporary address set),

Orava et al. et al. does not expressly disclose creating temporary address set by randomly transforming MAC address of a wireless terminal.

Bauchot et al. discloses creating temporary address set by randomly transforming MAC address of a wireless terminal ("...for generating Bernoulli **random variables given a value of P...A stream of random bits is generated...**a value that is derived from **its** unique equipment identification tag (e.g. the 48-bit MAC address used in the IEEE 802 standards)..." – e.g. col. 18, lines 4-59, fig. 11 and fig. 12. Please note



one unique MAC address is used as a value P to generate random variables, which met the claimed limitation of creating temporary address set by randomly transforming MAC address of a wireless terminal).

Orava et al. and Bauchot et al. are in the same field of endeavor of wireless communication.

It would have been obvious to a person with ordinary skill in the art at the time of the invention to modify Orava et al.'s creating a plurality of temporary address sets method with Bauchot et al.'s creating temporary address sets by randomly transforming MAC address of a wireless terminal.

The motivation of doing so would have been "To prevent stations that have been started simultaneously from generating the same sequence of random bits" as disclosed by Bauchot et al. (col. 18, lines 28-30)

Orava et al. – Bauchot et al. does not expressly disclose the temporary address set is encoded using a predetermined encryption key.

However, this common known feature is disclosed in Kallio et al. (e.g. col. 5, line 56 – col.6, line 3).

Orava et al. - Bauchot et al. - Kallio et al. are in the same field of endeavor of wireless communication.

It would have been obvious to a person with ordinary skill in the art to combine Kallio et al.'s common known features with Orava et al. – Bauchot et al. to enhance security in the wireless communication since encryption/encoding is well known method in the wireless communication to produce predictable security results.

Orava et al. further implicitly disclose simultaneously transmitting a plurality of addresses included in the temporary set to the wireless terminal by disclosing in paragraph [0070], “enables the **usage of several MAC addresses at a time**. Several services may be used, via the same radio network and access point AP, **at the same time which is considerable improvement compared to current situation where only one MAC address and service can be used at a time...**Also for **predetermined contexts temporary MAC addresses may be determined...**”.

In order to make recorder clearer, Toth et al. teaches simultaneously transmitting a plurality of addresses included in the temporary set to the wireless terminal by disclosing “...transmit **temporary addresses** to a correspondent host by way of the mobile terminal” (e.g. col. 11, lines 46 -49).

Orava et al. - Bauchot et al. - Kallio et al. – Toth et al. are in the same field of endeavor of wireless communication

It would have been obvious to a person with ordinary skill in the art to combine Toth et al.'s simultaneously transmitting a plurality of addresses included in the temporary set to the wireless terminal into Orava et al. - Bauchot et al. and Kallio et al. in order to directly transmit temporary addresses to the corresponding mobile terminal without detouring (e.g. Toth et al., col. 11, lines 46-49).

As **per claim 2**, Orava et al. - Bauchot et al. - Kallio et al. - Toth et al. further discloses a method as applied in claim 1. Orava et al. – Bauchot et al. – Kallio et al.

further discloses wherein the wireless access node creates the temporary address set, each of which consists of N (where N is an integer greater than or equal to two) temporary addresses using a MAC address contained in an access or authentication request message transmitted from the wireless terminal (e.g. Orava et al., par. [0030] and [0067]-[0070] and Bauchot et al. – e.g. 18, lines 4-59)

As per **claim 4**, Orava et al. - Bauchot et al. - Kallio et al. - Toth et al. discloses a method as applied in claims 1. Kallio et al. further discloses wherein each encryption key is created upon authentication of the wireless terminal (col. 5, lines 34-45, lines 56-67 and col. 6, lines 1-3).

As per **claim 5**, Orava et al. - Bauchot et al. - Kallio et al. - Toth et al. discloses a method as applied in claims 1. Orava et al. further discloses a first addressing, which is performed in the wireless access node, and generates a destination address randomly selecting, as the destination address, a temporary address set of the wireless terminal after the wireless terminal has requested authentication (e.g. par. [0054] – [0055])

As per **claim 6**, Orava et al. - Bauchot et al. - Kallio et al. - Toth et al. discloses a method as applied in claims 5. Kallio et al. further discloses a second addressing, which is performed in the wireless terminal, and generates a source address by randomly selecting, as the source address, a temporary address from the temporary address set of the wireless terminal (e.g. par. [0029]- [0049]).

As per **claim 7**, Orava et al. - Bauchot et al. - Kallio et al. - Toth et al. discloses the claimed method of steps as applied above in claim 1. Therefore, Orava et al. – Bauchot et al. – Kallio et al. - Toth et al. discloses a computer readable medium having embodied thereon the claimed computer program for carrying out the method of steps.

As per **claim 8**, Orava et al. - Bauchot et al. - Kallio et al. - Toth et al. discloses method of steps as applied above in claim 2. Therefore, Orava et al. – Bauchot et al. – Kallio et al. - Toth et al. discloses a computer readable medium having embodied thereon the claimed computer program for carrying out the method of steps.

As per **claim 9**, Orava et al. – Bauchot et al. – Kallio et al. - Toth et al. discloses the claimed method of steps as applied above in claim 6. Therefore, Orava et al. – Bauchot et al. – Kallio et al. - Toth et al. discloses a computer readable medium having embodied thereon the claimed computer program for carrying out the method of steps.

As per **claim 10**, it is rejected using the same rationale as rejecting claim 1 above.

As per **claim 11**, it is rejected using the same rationale as rejecting claim 2 above.

As per **claim 13**, it is rejected using the same rationale as rejecting claim 4 above.

As per **claims 14-15**, they are rejected using the same rationale as rejecting claims 1, 2 and 4-6 above.

As per **claims 16-18**, they are rejected using the same rationale as rejecting claim 14 above.

As per **claims 19-21**, they are rejected using the same rationale as rejecting claim 15 above.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. However, applicants are **strongly urged** to consider the cited references carefully and distinguish them from the instant claims in accordance with 37CFR 1.111c when presenting an amendment in response to the current Office Action.

- Munger et al. (U.S. Patent No. 7,010,604) discloses MAC hopping by generating sequences of non-attributable MAC addresses
- Larson et al. (U.S. Patent No. 7,188,180) teaches establishing a secure communication link between a first and a second computer over a computer network by exchanging random-number generators and seeds and create sequences of quasi-random MAC addresses

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to APRIL Y. SHAN whose telephone number is (571)270-1014. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/April Y Shan/  
Examiner, Art Unit 2435